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Nurse Practitioner Workforce: A Substantial Supply of Primary Care Providers

Executive Summary

- For about 5 decades, nurse practitioners (NPs) have been utilized to deliver primary care, traditionally in underserved areas or to vulnerable populations.
- However, over the years, this workforce has experienced a steady growth and has expanded its reach to provide primary care in diverse settings.
- An additional 32 million patients will have access to primary care with full implementation of the Patient Protection and Affordable Care Act.
- It is unlikely that the scarce supply of primary care physicians will be able to properly meet the demand and the health care needs of the nation.
- NPs face challenges but practice, policy, and research recommendations for better utilizing NPs in primary care can mediate the workforce shortages and meet the demand for care.

PRIMARY CARE DELIVERY IS going through a major redesign to increase its capacity to deliver high-quality cost-effective care. However, the provision of such care is becoming challenging because of the lack of available primary care providers to meet the needs of a growing health care industry. The primary care physician workforce is expected to continue shrinking as fewer medical residents choose internal and family medicine specialties. By 2020, the United States will face a shortage of more than 45,000 primary care physicians (Kirch, 2012). Others predict that by 2025, physicians will not be delivering primary care to the general patient population (McKinlay, 2008); instead, primary care will be provided by non-physician providers including nurse practitioners (NPs).

For about 5 decades, NPs have been utilized to deliver primary care, traditionally in underserved areas or to vulnerable populations. However, over the years, this workforce has experienced a steady growth and has expanded its reach to provide primary care in diverse settings. For example, over the past 10 years, the District of Columbia experienced a 458% increase in the number of NPs (Pearson, 2012). The vast majority of NPs, about 65%, are employed in ambulatory or primary care (Health Resources and Services Administration, 2008), and they compose about 20% of the total primary care workforce (Robert Wood Johnson Foundation, 2011). The NP workforce is predicted to grow 130% between 2008 and 2025 (Auerbach, 2012). Thus, this workforce represents a substantial source of human capital to

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increase access to cost-effective primary care. The RAND Corporation estimated the state of Massachusetts could save between $4.2 and $8.4 billion over 10 years if NPs and physician assistants were permitted to practice primary care to the fullest extent of their training (RAND Health, 2009).

In primary care settings, the quality of care NPs provide yields patient outcomes that are equivalent to those of physicians (Horrocks, Anderson, & Salisbury, 2002). This result has been reported consistently across studies (Newhouse et al., 2011). Many disciplines, including physicians, recognize NPs are capable of providing effective and safe care to patients with chronic diseases and managing many conditions in primary care settings (American Medical Association, 2009). Moreover, there are additional benefits associated with the care delivered by NPs. For example, NPs are better at communicating with patients and offering advice about self-managing their chronic conditions (Horrocks et al., 2002). Also, patients have better outcomes when physicians partner with NPs to manage chronic conditions such as diabetes compared to patients treated only by a physician (Litaker et al., 2003). This demonstrates the value of NP care, whether provided alone or in conjunction with other providers, when addressing certain complex diseases.

An additional 32 million patients will have access to primary care with full implementation of the Patient Protection and Affordable Care Act (2010). It is unlikely the scarce supply of primary care physicians will be able to properly meet the demand and the health care needs of the nation. A robust NP workforce can absorb the future demands for primary care. The Institute of Medicine (IOM, 2010) along with other national practice and policy organizations are calling for expansion of the primary care NP workforce. In this article, some of the challenges NPs face in primary care settings are discussed, and practice, policy, and research recommendations for better utilizing NPs in primary care to mediate the workforce shortages and meet the demand for care are provided.

Professional Identity

Various terms are used to describe the NP workforce, including "mid-level providers," "physician extenders," and "non-physician providers." These descriptions do not adequately represent the professional identity of the NP workforce and, in fact, tend to marginalize the expertise of these independent providers by classifying them as a level beneath physicians. The lack of information about the knowledge, skills, and expertise of NPs contributes to mischaracterizations of these primary care providers and impedes the development of their overall professional identity.

The "physician extender" term was introduced by medicine to imply that advanced nursing education evolved to serve as an extension of physician care. Instead, advanced nursing practice has evolved, in the United States, as a response to the growing complexity of individual and population health care needs (Dunn, 1997). Academic disciplines and professional practice develop interdependently in response to societal needs (Donaldson & Crowley, 1978). Professions develop because of the increasing value of the services provided by practitioners of the discipline (Donaldson & Crowley, 1978). Advanced practice nursing is defined as the deliberate diagnosis and treatment of a full range of human responses to actual and potential health (Calkin, 1984). The contemporary meaning of advanced practice refers to the status bestowed on nurses with advanced education and abilities to provide independent care. Advanced practice nurses (APNs) include NPs, certified nurse-midwives, clinical nurse specialists, and certified registered nurse anesthetists. APNs not only draw knowledge from the biomedical and physical sciences but also focus their delivery of health care with the social sciences and the person-environment interactions in mind (Baer, 1999). This approach to care delivery makes NPs uniquely prepared to address the multidimensional nature of disease, especially for chronic conditions (Fiandt, 2007).

The American Association of Nurse Practitioners has rejected the use of the phrases "mid-level provider" or "physician extender" as descriptions of NPs (American Academy of Nurse Practitioners, 2010). Referring to NPs as "mid-level" providers might create challenges for the patients and lead to misconceptions they are getting "mid-level" care rather than "higher-level" care when evidence demonstrates NPs provide high-quality care (Newhouse et al., 2011).

Perhaps the most divisive description used to characterize NPs is "non-physician" providers. The implication of this description is that there exist only two categories of primary care providers: physicians or non-physicians. Such classification undermines the professional identity of not only APNs but also multidisciplinary practitioners who make valuable contributions in primary care. The distinct knowledge and skills that motivate care delivered by NPs is recognized as critical to improving the quality and reducing the cost of health care in the United States. Regardless, the professional identity of NPs still remains unclear for many individuals (patients), health care leaders, and policymakers. An important policy solution for clarifying the professional identity of NPs is the establishment of consistent scope of practice regulation from state to state.

Scope of Practice Regulations

The educational preparation and training of NPs is guided by a common accreditation agency and national certification examinations. Despite this, scope of practice (SOP) laws and regulations for NPs are not consistent from state to state. They are regulated by a variety of state agencies, including boards of nursing and/or boards of medicine, and pharmacy, among others (Kugler, 2011; Phillips, 2010). This diversity in oversight may explain the significant variations in scope of practice, which often limits the ability of NPs to meet their patients' needs. SOP regulations set out the role and responsibilities of NPs. This includes NPs' level of autonomy in delivering care to patients (Phillips, 2010). In some states, NPs provide care without any involvement from a physician. In other states, providing the same care requires that NPs collaborate or even be supervised by a physician. Twenty-seven states have no requirements for physician involvement in diagnosing and treating aspects of NP practice whereas 20 states require written documentation (Pearson, 2012). The remaining states have a requirement for physician involvement but written documentation is not necessary.

In some states, the regulatory environment is more favorable for supporting NP independent practice, and is characterized by NPs' legal capacity and their patients' access to services and prescriptions (Lugo, O'Grady, Hodnicki, & Hanson, 2007). In other states, state governments impose unnecessary restrictions, primarily regarding prescriptive authority, physician involvement, and ordering of diagnostic tests or referrals (Lugo et al., 2007). This is particularly true for states where another profession is involved in NP regulation (Lugo, 2010).

In some states, NPs are not allowed to certify home health care visits or stays in long-term care facilities (Fairman, Rowe, Hassmiller, & Shalala, 2011). These restrictions on NP practice may lead to NPs' inabilities to admit patients to hospitals when necessary, and order tests and medical equipment, all of which affect their ability to practice independently and provide patient care.

Lack of uniform scope of practice regulations across states might affect the production and utilization of the NP workforce; it may also affect its mobility within the country. SOP laws allowing for more independent practice may result in an enhanced NP supply. For example, more nurses may obtain advanced education and licensure to become an NP in states with a less restrictive SOP. Nursing schools in these states may attract more students as compared to nursing schools in states with a less favorable regulatory environment, thus shifting the production of the NP workforce across states. Enrollments in APN programs are about 30% higher in states where APNs have a high level of independence (Kalist, 2004). Additionally, NPs might move from more restrictive states to less restrictive states, leading to depletion of this workforce in certain areas and challenging health care provision in the future (Fairman et al., 2011).

Uniform regulations, allowing NPs to practice to the full extent of their scope, is necessary to support the expansion of the NP workforce to meet quality care needs. Policymakers and legislators need to recognize the important role NPs play so that a unified SOP which allows for unimpeded, autonomous care can be established across all states (National Council of State Boards of Nursing, 2008).

Payment Regulations for NP Care

The major health care payers – Medicaid, Medicare, and private payers – have complex mechanisms to pay for health care providers, which significantly vary for NPs and physicians delivering primary care (Chapman, Wides, & Spetz, 2010). For NPs, Medicaid may pay from 75%-100% of the physician fee with additional payment for rural areas, and private payers may make the payments to an NP employer (Chapman et al., 2010). Medicare may also reimburse NPs or their employers.

Medicare's "incident to" billing (42 C.F.R. § 410.26(b), 2011) allows physicians to bill for services performed by other members of the care team, including NPs. The billing has several requirements such as services must be initiated and performed under physician supervision and the physician must be present in the physical location for immediate assistance. If the practice site bills using "incident to" definition for NP services, it receives 100% of the physician fee schedule for the services whereas if NPs bill using their own Medicare provider ID, the practice receives 85% of the physician fee schedule. Such billing encourages practices to use "incident to" to bill for NP services and discourages autonomous delivery of primary care and billing by NPs. In 2007, only half of the services that were billed by physicians who were allowed to bill for services exceeding 24 hours in a day, were actually performed by them (Department of Health and Human Services, 2009). The other half of the services were performed by "non-physicians" (the report does not differentiate providers from different disciplines) for which physicians may have billed as "incident to" services. This report also found almost two-thirds of invasive and almost half of noninvasive services that Medicare allows only physicians to perform were actually done by "non-physicians."

NPs are trained through rigor-

ous educational programs to practice independently and deliver primary care. However, billing discrepancies discourage independent NP billing and lead to their services being hidden under the physician practice, which creates several challenges for the NP workforce. First, this kind of billing system does not allow tracking and evaluation of NP care. Second, it limits the American public's right to see quality care indicators for providers who actually delivered the care. Lastly, while the IOM (2010) recommends expansion of the NP workforce in primary care, this billing practice does not create financial incentives for organizations to hire and retain NPs as independent care providers.

For example, after Massachusetts passed its health reform law in 2006 (Commonwealth of Massachusetts, 2006), which led to an influx of about a half million patients into the system, the state faced challenges providing care to its residents. In 2008, after a successful campaign by an NP-led organization, Massachusetts Coalition of Nurse Practitioners, the state's legislative body revised the law to allow third-party payers to recognize NPs as primary care providers (PCPs) (Commonwealth of Massachusetts, 2008). However, the successful passage of the revision did not guarantee NP recognition as PCPs in their organizations (Poghosyan, Nannini, Stone, & Smaldone, 2012). The lack of recognition of NPs as PCPs limits the continuous contact with the patient, does not provide an opportunity to develop patient-provider relationships, and decreases the visibility of NPs as independent care providers.

Health Reform

In March 2010, the United States Congress passed the Patient Protection and Affordable Care Act (PPACA) which attempts to reform the U.S. health care system with the focus on cost effectiveness, access, and quality of care. With full implementation of PPACA, the demand for primary care will increase and serve as a substantial opportunity for NPs to contribute significantly to the delivery of primary care. With an emphasis on prevention, chronic care management, and cost-effective quality care, the PPACA promotes many of the priorities of advanced practice nursing.

Not only does PPACA create more value in the NP role, but it also creates more leadership opportunities for NPs. PPACA appropriated $50 million for Nurse-Managed Health Centers (NMHCs) in the first year with the intention of an equivalent amount each year through 2014. The provision for funding for NMHCs will provide NPs with opportunities to lead health centers that emphasize many of nursing's philosophies, such as patient-centered care. The NMHC is intended to provide comprehensive primary care and wellness services to underserved or vulnerable populations (PPACA, 2010).

The recognition of NPs as PCPs will allow health outcome data to be tracked in centers like the NMHCs and Accountable Care Organizations (ACOs) that require data to be tracked and reported to the government. ACOs refer to formal or informal networks of physicians and other qualified health care providers and organizations (Luft, 2011) collectively responsible for quality and cost of care. One of the core attributes of ACOs is the ability to measure the performance of providers and hold them accountable for the quality of care. In an ACO, physicians might resist taking responsibility for the care provided by other professionals (Fisher, 2007). For successful implementation of ACOs, performance of NPs should be tracked and evaluated. Data about NP care will promote NP workforce recognition in terms of delivering quality, cost-effective, and efficient care if allowed to practice to the full extent of their professional scope.

Given the substantial need for qualified PCPs, there are not enough educational programs educating NPs. Under the health reform law, a commission was established to determine recommendations for improvement of the health care workforce and allocation of funds to finance the education and training of health care workers (PPACA, 2010). In addition, the PPACA also established expanded loan forgiveness programs and a demonstration grant for a 1-year residency training program for NPs in federally qualified health centers to increase access to primary care. These types of demonstration projects could significantly increase the number of NPs providing primary care along with the addition of PAs and family medicine physicians. Without the increase in funding for education programs and training, the goals of health reform cannot be met.

Despite increasing educational support and leadership opportunities for NPs, there was no federal mandate for all APNs to be reimbursed at 100% by Medicare. This creates a significant challenge for NPs to be reimbursed for comparable care to physicians. For those NPs practicing in health professional shortage areas, Medicare will reimburse a 10% bonus for services through January 1, 2016. Efforts should be made to encourage policy change with a focus on providers being reimbursed according to the quality and type of service they deliver.

Patient-Centered Medical Homes

Patient-Centered Medical Homes (PCMHs) were initiated by the Centers for Medicare and Medicaid Services as a response to a mandate in the Tax Relief and Health Care Act of 2006 (Tax Relief and Health Care Act of 2006 H.R. 6111). This legislation mandates provision of targeted, accessible, continuous, and family-cen-

tered care to Medicare beneficiaries with chronic diseases that require regular monitoring and care. Patient-centered care incorporates care that is based on patient preference and is personalized to meet the patient's needs. PCMHs integrate the idea of patient-centeredness and implementation of infrastructures to improve coordination and communication when delivering care.

The concept of medical homes has been around since the late 1960s (American Academy of Pediatrics Council on Pediatric Practice, 1967) but has taken on a different meaning during the past several years. This renewal has been fueled by the poor quality and high cost of chronic disease care. In 2005, 133 million Americans had at least one chronic condition (Bodenheimer, Chen, & Bennett, 2009); this rate is expected to grow to 155 million in 2020 (Wu & Green, 2000). Chronic disease burden is 78% of total health care spending and translates into an economic impact of more than $1 trillion (DeVol & Bedroussian, 2007). In addition to the prevalence and cost, the shortcomings in the quality of care for managing these diseases in primary care settings have been reported consistently. Patients with chronic diseases do not achieve recommended goals to control their conditions and only about 55% of them receive the recommended care (McGlynn et al., 2003). For example, about half of the patients with obstructive lung disease received recommended care (Mularski, 2006), and only 37% of patients with diabetes had recommended levels of hemoglobin A1c (Saydah, Fradkin, & Cowie, 2004).

PCMH legislation initially included physicians in the medical home demonstration projects as leaders and unfortunately failed to include NPs (Duderstadt, 2008), thus limiting NP recognition (Graham, 2010). Also, the joint principles for PCMHs, developed by physician professional organizations, do not recognize NPs as leaders (American Academy of Family Physicians [AAFP], American Academy of Pediatrics [AAP], American College of Physicians [ACP], & American Osteopathic Association [AOA], 2010). Exclusion of NPs from PCMH leadership will restrict and limit NP practice, preventing NPs from using their chronic disease management skills and knowledge in implementing PCMHs.

In 2008, the National Committee for Quality Assurance that defines and designates practices as PCMH included "clinicians" as leaders of PCMHs and did not specify that primary care physicians should lead the team, since there is nothing specific in the law that prevents NPs from leading PCMHs (U.S. House of Representatives, 2009). This change was motivated by policymakers' recognition of NP care as key for improving patient outcomes and reducing cost (Scudder, 2011). Consequently, in 2009, eight NP-led practices in Pennsylvania were awarded the recognition of PCMHs (Hansen-Turton, 2010; Scudder, 2011). Advocacy by NP organizations, various stakeholders, NPs, and administrators are necessary to promote NP-led PCMHs.

Primary Care Settings as Organizations

Successful implementation of policy initiatives to reform the delivery of primary care will be influenced by organizational characteristics. Concerns have been expressed that current primary care settings may not have organizational capacities to implement new initiatives to deliver high-quality cost-effective care (Bodenheimer & Pham, 2010; Friedberg, Safran, Coltin, Dresser, & Schneider, 2009). Work environments in primary care settings are characterized by a shortage of providers, lack of support, increased workload (Linzer et al., 2009; Mechanic, 2009), and lack of enough resources, such as electronic medical records, to coordinate the delivery of complex primary care (DesRoches et al., 2008).

Organizational challenges are more severe in the NP workforce compared to other health care providers (Poghosyan, Nannini, & Clarke, 2012). While some primary care settings, such as community health centers, have a long history of hiring and retaining NPs, others may be unfamiliar with the NP role. Primary care settings may not be used to integrating such a large number of NPs given the great increase of this workforce over the past few decades, and work environments might not be designed to support NP practice. Poor relationships between NPs and physicians, administrators, and other staff members have been documented and may affect NP practice and outcomes. Even though about half of the physicians work with NPs, older physicians are less likely to work with NPs than younger physicians (Park, 2011). Studies show NPs report dissatisfaction with intra-practice partnerships (De Milt, Fitzpatrick, & McNulty, 2011; Schiestel, 2007) and lack of physician support (Lindeke, Jukkala, & Tanner, 2005; Weiland, 2008). Many NPs view the partnership between physicians and NPs as supervisory rather than collaborative. Additionally, in primary care settings NPs do not receive the same level of support as physicians to deliver care (Bryant-Lukosius, DiCenso, Browne, & Pinelli, 2004; Martin, 1999). For example, in some settings NPs do not receive the same assistance from staff members as physicians when ordering lab work or drawing blood (Brown, 2003). Lack of support and poor working relationships are attributes of unfavorable work environments which affect clinician (including NPs) turnover, job satisfaction, and perceived clinical effectiveness (Brazil, Wakefield, Cloutier, Tennen, & Hall, 2010; Hall, Brazil, Wakefield, Lerer, & Tennen, 2010).

To be successful in expanding the NP workforce in primary care, we need to better understand the organizational attributes and work environments in primary care settings that promote or impede NP practice.

Research, Practice, and Policy Recommendations

The delivery of primary care will continue to face serious challenges as long as consumers are kept from accessing a comprehensive primary care system, including advanced practice nurses. Over the next several years, there will be a significant supply of NPs qualified to deliver primary care. However, their expertise and skills will be underutilized if existing policy and system barriers are not addressed.

Uniform NP SOP laws and regulations that enable NPs to practice without restrictions are necessary to assure consistent provision of high-quality care across the states. The laws should take into account the national standards and competencies of NPs rather than arbitrary requirements not based on evidence. Evidence is needed to determine the health and economic impact of restrictive policies on NPs' professional practice and patient outcomes. Scope of practice laws that restrict the professional practice of NPs may result in a reduction of the NP supply and mobility, as well as deter cost containment and increased access to care, especially for underserved populations.

Payment for health care should be based on services provided rather than policies that suggest a particular provider type is more valuable over another. Such policies are outdated, not based on evidence, and challenge the quality of care given to the American public. Independent billing by providers will allow the development of data relevant for the evaluation of care delivered by NPs and hold them accountable for the care. Quality and outcome measures of care are sensitive to NP practice, including the management of chronic conditions and facilitating access to care. Measuring NP care and patient outcomes will play a significant role in the success or failure of many initiatives, especially ACOs and PCMHs. Creating favorable work environments for NPs is necessary to support their productive practice. Favorable work environments should recognize and acknowledge the unique contributions of each member of the care team. Given the overall shortage of nurses in the United States, unfavorable primary care work environments could discourage nurses from pursuing advanced practice education. More research is needed to better understand work environments in primary care settings in order to create favorable environments for NPs. This will help organizations to understand what primary health care configuration best meets the needs of patients and support primary care providers to deliver the best health care.

Conclusion

The NP workforce represents a valuable supply of primary care providers to combat workforce shortages. To be able to use this workforce in the most productive way, uniform scope of practice regulations across states, payment policies based on services provided, and better work environments are necessary. Utilizing the NP workforce to its fullest capacity is key to meeting the increased demand for primary care. **$**

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